

Expanding the use of scientific knowledge in decision making processes is critical, especially in the case of policy initiatives and legislation. The integration of paleoclimate research into these processes is a key knowledge asset especially for crafting policies and initiatives for climate mitigation and adaptation strategies. This manuscript is a valuable addition to science-policy communication literature in its perspective on the integration of paleoclimate research and data into policy decision making, and the exploration of the existing barriers and opportunities for this integration.

We thank the reviewer for taking the time to read our manuscript, and for the positive and constructive comments made to help us improve our study.

In sections 3 and 4, the authors mention how decision makers use grey literature from governmental and non-governmental organizations to inform their decision making. Other literature has discussed this trend in the use of non-peer reviewed scholarly publications by policymakers. The authors might consider adding some background information to the manuscript to show that these trends from their survey results align with prior research. Here are some references that may provide some insight for this discussion:

Lawrence, A., Houghton, J., Thomas, J., and Weldon, P., 2014, Where is the evidence: realising the value of grey literature for public policy and practice, Swinburne Institute for Social Research, Melbourne, Australia. Retrieved from <http://apo.org.au/research/where-evidence-realising-value-grey-literature-public-policy-and-practice>

MacDonald, B. H., Ross, J. D., Soomai, S. S., and Wells, P. G., 2015, How information in grey literature informs policy and decision-making: A perspective on the need to understand the processes. *The Grey Journal*, 11:1, 7-16.

We agree with the reviewer that adding in more context into the discussion would be a useful addition to this manuscript. We also thank the reviewers for providing us with these references.

In Section 2 (Methods), the authors mention that the requirements for decision makers were that they “worked on some aspect of climate within their team”. Did the decision makers specify which aspects of climate they worked on? If so, it might be useful for the non-climate scientist audience to understand the breadth of climate-related expertise of the decision makers. Same goes for the paleoclimate researchers (“they have research expertise on some aspect of palaeoclimate”).

We thank the reviewer for this comment, and we think this would make a nice addition. Whilst neither group of participants were asked about their specific areas of work, a few participants mentioned their background, and therefore we will add in those examples.

The authors discuss policy training as a potential opportunity for academics. In the UK, do academic fellowships in policy making governmental agencies exist? If these opportunities do exist in the UK, it may be good to include this information as part of Section 4.3.3.

We think this is a good idea, and we will add a link to where both academics and decision makers can find opportunities for secondments and exchange partnerships in the UK.

The authors acknowledge potential bias from their positionality when doing the qualitative coding. Given the advancements in technology, especially with respect to artificial intelligence, it may be useful to consider comparing the results from qualitative coding of the transcripts from a large language model to that of the authors to see if there are significant differences in the coding results. This may be outside the scope of this manuscript; however, it could be mentioned as a way to help identify and potentially minimize positionality bias in the interpretation and analysis of the data.

We thank the reviewer for this suggestion. This was discussed as an option for this study. However, once we had reviewed the transcripts it was clear that there was some personal details and information about specific projects that could have been related back to the interviewees. Therefore, we decided to do this ourselves manually to ensure that there was no breach in data confidentiality. However, we will note this for future work.

L46: When palaeoclimate evidence is not considered, our understanding of climate variability is constrained to only the last ~150 years, a period that captures neither the full range of natural variability nor the frequency of rare but high impact climate events which may lead to.

Thank you for noticing this – we will update the sentence.

L134: Building on the broader literature on science-policy barriers and facilitators outlined above, recent investigations into the barriers and facilitators of palaeo science in general (Allen et al., 2025), and palaeoecology specifically (Siggery et al., 2023)

We thank the reviewer for noticing our mistake and we will finish the sentence.